REMARKS/ARGUMENTS

Claims 1-16 are pending in this application.

Claims 1-16 were rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite. Particularly, the Examiner alleged:

> No antecedent basis has been found for the citation in claim 1 of the 'irregularities between portions of the top surface of the insulating film disposed above electrode fingers of the at least one interdigital transducer and portions of the top surface of the insulating film disposed between the electrode fingers [as being] approximately 30% or less than the film thickness of the interdigital transducer' in applicants' disclosure. While the REMARKS with the amendment note that allusion to such is cited at the first full paragraph on page 2 of the originally filed specification, the range itself is not cited.

Applicants respectfully disagree.

Contrary to the Examiner's allegation, Applicants did not refer to the first full paragraph on page 2 of the originally filed specification to provide support for the features cited above. In contrast, in the second full paragraph of the Amendment filed on December 28, 2005, Applicants referred to the fourth full paragraph on page 9 of the originally filed specification to provide support for this feature.

Particularly, the fourth full paragraph on page 9 of the originally filed specification discloses:

> On the top surface 2a of the piezoelectric substrate 2, an SiO_2 film 4 is formed as an insulating film so as to cover the IDT 3. The top surface 4a of the SiO_2 film 4 is planarized. That is, the SiO_2 film 4 is formed so as to fill in the area between the electrode fingers of the IDT 3, so as to cover the top surface of the IDT 3, and such that the top surface 4a is flat. **The fact that the top surface 4a of the SiO_2 film 4 is flat means that the irregularities between the top surface of the SiO_2 film portion above the portion where the electrode fingers of the piezoelectric substrate 2 are provided and the top surface of the SiO_2 film in the area between the electrode fingers is approximately 30% or less of the film thickness of the IDT 3.** When the top surface 4a of the SiO_2 film 4 is planarized to such a degree, the deterioration of the characteristics due to the formation of the SiO_2 film 4 is small. (emphasis added)

As this paragraph clearly and specifically provides support for the features of "a

top surface of the insulating film is planarized such that irregularities between portions of the top surface of the insulating film disposed above electrode fingers of the at least one interdigital transducer and portions of the top surface of the insulating film disposed between the electrode fingers are approximately 30% or less than the film thickness of the interdigital transducer," Applicants respectfully request reconsideration and withdrawal of the rejection of Claims 1-16 under 35 U.S.C. § 112, second paragraph.

Claims 1-8, 10, 15 and 16 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Kadota et al. (U.S. 6,185,801). Claim 9 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Kadota et al. in view of Sato et al. (U.S. 6,236,141). Applicants respectfully traverse the rejections of claim 1-10, 15 and 16.

Claim 1 recites:

> "An end surface reflection type surface acoustic wave device comprising:
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> a piezoelectric substrate having two opposing end surfaces on which a surface acoustic wave is reflected;
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> an electrode film made of at least one of Al and an alloy including Al as a major component on said piezoelectric substrate and which defines at least one interdigital transducer; and
>
> an insulating film arranged on said piezoelectric substrate so as to cover said electrode film; wherein
>
> **a top surface of the insulating film is planarized such that irregularities between portions of the top surface of the insulating film disposed above electrode fingers of the at least one interdigital transducer and portions of the top surface of the insulating film disposed between the electrode fingers are approximately 30% or less than the film thickness of the interdigital transducer**, and a ratio of the average density of said electrode film to the density of the insulating film is less than or equal to about 1.5." (emphasis added)

On page 4 of the outstanding Office Action, the Examiner acknowledged, "Kadota doesn't note anything about irregularities between portions of the top surface of the insulating film disposed above electrode fingers of the at least one interdigital transducer and portions of the top surface of the insulating film disposed between the electrode fingers as being approximately 30% or less than the film thickness of the

interdigital transducer." However, the Examiner alleged, "It would have been obvious to one having ordinary skill in the art to have irregularities in the claimed range of the applicants in the device of Kadota et al. at the time of their invention since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art." Applicants respectfully disagree.

The Examiner is reminded that "[a] particular parameter must first be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation." In re Antonie, 195 USPQ 6 (CCPA 1977) and MPEP §2144.05(II)(B).

Kadota et al. fails to teach or suggest anything at all about irregularities in a top surface of an insulating film, and certainly fails to teach or suggest that such irregularities could or should be maintained in a specific range. Thus, Kadota et al. clearly fails to recognize that a value for the irregularities between portions of a top surface of the insulating film disposed above electrode fingers of at least one interdigital transducer and portions of the top surface of the insulating film disposed between the electrode fingers is a result-effective variable.

Accordingly, Applicants respectfully submit that, contrary to the Examiner's allegation, it would not have been obvious to modify Kadota et al. so as to have irregularities in the claimed range.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection of Claim 1 under 35 U.S.C. § 103(a) as being unpatentable over Kadota et al.

The Examiner relied upon Sato et al. to allegedly cure the deficiencies of Kadota et al. However, Sato et al. clearly fails to teach or suggest the feature of "a top surface of the insulating film is planarized such that irregularities between portions of the top surface of the insulating film disposed above electrode fingers of the at least one interdigital transducer and portions of the top surface of the insulating film disposed

between the electrode fingers are approximately 30% or less than the film thickness of the interdigital transducer" as recited in Applicants' Claim 1. Thus, Applicants respectfully submit that Sato et al. fails to cure the deficiencies of Kadota et al. described above.

Accordingly, Applicants respectfully submit that Kadota et al. and Sato et al., applied alone or in combination, fail to teach or suggest the unique combination and arrangement of elements recited in Applicants' Claim 1.

In view of the foregoing amendments and remarks, Applicants respectfully submit that Claim 1 is allowable. Claims 2-16 depend upon claim 1, and are therefore allowable for at least the reasons that Claim 1 is allowable.

In view of the foregoing amendments and remarks, Applicants respectfully submit that this application is in condition for allowance. Favorable consideration and prompt allowance are solicited.

The Commissioner is authorized to charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1353.

Respectfully submitted,

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